

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-101 (Canceled)

Claim 102 (Currently amended): An electronic interconnect element comprising:

- a first leaf portion;
- a contact tip located on a first side of the first leaf portion and disposed to electrically engage a contact feature of an electronic device;
- at least one first support offset from the contact tip and coupled directly to a second side of the first leaf portion opposite the first side of the first leaf portion;
- a second leaf portion having a first side coupled directly to the at least one first support, wherein the at least one first support joins the first leaf portion directly to the second leaf portion such that the first side of the first leaf portion, the second side of the first leaf portion, the first side of the second leaf portion, and a second side of the second leaf portion opposite the first side of the second leaf portion are substantially parallel, an open space immediately below the contact tip between the second side of the first leaf portion and the first side of the second leaf portion into which at least part of the first leaf portion can deflect when the contact tip is depressed; and
- at least one second support coupled directly to the second side of the second leaf portion;
- ~~wherein the first leaf portion comprises a structural material deposited on a conductive seed material.~~

Claim 103 (Withdrawn): The electronic interconnect element of claim 102, wherein the contact tip and the second support are located on a common axis that is substantially perpendicular to the first side of the first leaf portion, the second side of the first leaf portion, and the first side of the second leaf portion.

Claim 104 (Previously presented): The electronic interconnect element of claim 102 further comprising a third support spaced apart from the first support and coupled to the second side of the first leaf portion offset from the contact tip, and a fourth support spaced apart from the second support and coupled to the second side of the second leaf portion offset from the first contact.

Claim 105 (Previously presented): The electronic interconnect element of claim 102 further comprising a third leaf portion having a first side directly coupled to the second support, and a third support offset from the second support and directly coupled to a second side of the third leaf portion opposite the first side of the third leaf portion.

Claim 106 (Previously presented): The electronic interconnect element of claim 102 wherein the contact tip, the first and second leaf portions and the first and second support are each structurally distinct and separate elements that are joined one to another.

Claim 107 (Previously presented): An electronic interconnect element comprising:

- a plurality of leaf portions;

- a contact tip located on a first side of one of the plurality of leaf portions and disposed to electrically engage a contact feature of an electronic device, the underside of said one leaf portion immediately below the contact tip defining an open space into which said first side can deflect when the contact tip is depressed;

- at least one first support offset from the contact tip and directly coupled to a second side of the one leaf portion opposite the first side of the one leaf portion;

- another of the plurality of leaf portions having a first side coupled directly to the at least one first support, wherein the first support joins the one leaf portion to the another leaf portion such that the first side of the one leaf portion, the second side of the one leaf portion, the first side of the another leaf portion, and a second side of the another leaf portion opposite the first side of the another leaf portion are substantially parallel; and

- at least one second support offset from the at least one first support and coupled to the second side of the another leaf portion.

Claim 108 (Previously presented): An electronic interconnect element comprising:

a plurality of leaf structures disposed in a stack and joined one to another by a plurality of support structures;

a post structure attached directly to an outer side of a first outer one of said leaf structures and configured to attach said electronic interconnect element to a first electronic component;

a contact tip structure attached directly to an outer side of a second outer one of said leaf structures and configured to electrically contact a second electronic component, at least two of said plurality of support structures being offset from said contact tip; and

at least one of said plurality of support structures directly coupled to an inner side of the first outer one of said leaf structures, wherein the inner side is opposite the outer side of the first outer one of said leaf structures, said at least one of said plurality of support structures also directly coupled to another of said plurality of leaf structures,

wherein each of said leaf structures is configured to flex in response to a force on said contact tip structure from contact with said second electronic component.

Claim 109 (Previously presented): The electronic interconnect element of claim 108, wherein said leaf structures are disposed substantially parallel in said stack.

Claim 110 (Previously presented): The electronic interconnect element of claim 108, wherein each of said plurality of leaf structures is movable in response to a force applied to said contact tip structure and said interconnect element acts as a spring when said force is applied to said contact tip structure.

Claim 111 (Previously presented): The electronic interconnect element of claim 110, wherein a spring constant of said interconnect element comprises a sum of spring constants of each of said leaf structures.

Claim 112 (Previously presented): The electronic interconnect element of claim 111, wherein a maximum deflection of said interconnect element comprises a sum of maximum deflections of each of said leaf structures.

Claim 113 (Previously presented): The electronic interconnect element of claim 110, wherein a maximum deflection of said interconnect element comprises a sum of maximum deflections of each of said leaf structures.

Claim 114 (Previously presented): The electronic interconnect element of claim 108, wherein upon application of a force to said contact tip structure, each one of said leaf structures deforms towards another of said leaf structures.

Claim 115 (Previously presented): The electronic interconnect element of claim 108, wherein upon application of a force to said contact tip structure, the leaf structures in at least one pair of adjacent leaf structures deform towards each other.

Claim 116 (Previously presented): The electronic interconnect element of claim 108, wherein upon application of a force to said contact tip structure, the leaf structures in at least one pair of adjacent leaf structures deform in opposite directions.

Claim 117 (Previously presented): The electronic interconnect element of claim 108, wherein each of said leaf structures are cylindrically shaped and stacked to form a cylindrically shaped stack.

Claim 118 (Previously presented): The electronic interconnect element of claim 108, wherein each of said leaf structures are "H" shaped and stacked to form an "H" shaped stack.

Claim 119 (Previously presented): The electronic interconnect element of claim 108, wherein each of said leaf structures are rectangular shaped and stacked to form a rectangular shaped stack.

Claim 120 (Previously presented): The electronic interconnect element of claim 108, wherein at least one of said leaf structures comprises an opening.

Claim 121 (Previously presented): The electronic interconnect element of claim 108, wherein all of said leaf structures except said first outer leaf structure and said second outer leaf structure are disposed between said first outer leaf structure and said second outer leaf structure.

Claim 122 (Previously presented): The electronic interconnect element of claim 121, wherein each of said leaf structures comprises a plate with a planar surface, and each of said contact tip structure, said at least one support structure, and said post structure are attached to at least one of said planar surfaces.

Claim 123 (Previously presented): The electronic interconnect element of claim 122, wherein said planar surfaces of said leaf structures are substantially parallel in said stack.

Claim 124 (Previously presented): The electronic interconnect element of claim 108, wherein each of said leaf structures, each of said at least one support structures, said post structure, and said contact tip structure are distinct and separate structures that are joined one to another.

Claim 125 (Previously presented): The electronic interconnect element of claim 102, wherein each of the first leaf portion and the second leaf portion is configured to flex in response to a force on the contact tip from contact with the electronic device.

Claim 126 (Previously presented): The electronic interconnect element of claim 125, wherein each of the first leaf portion and the second leaf portion is resilient and configured to generate a counter force in response to the force on the contact tip.

Claim 127 (Previously presented): The electronic interconnect element of claim 107, wherein each of the plurality of leaf portions is configured to flex in response to a force on the contact tip from contact with the electronic device.

Claim 128 (Previously presented): The electronic interconnect element of claim 127, wherein each of the plurality of leaf portions is resilient and configured to generate a counter force in response to the force on the contact tip.

Claim 129 (Previously presented): An electronic interconnect element comprising:

a beam structure comprising a continuous closed perimeter portion enclosing a hollow space disposed within said perimeter portion;

a contact tip structure extending directly from a first end of said beam structure in a first direction; and

an attachment structure extending an effective distance directly from a second end of said beam structure opposite said first end and extending in a second direction that is different than said first direction, substantially all of said attachment structure located at said second end, said attachment structure configured to attach said interconnect element to an electronic component such that, while attached to said electronic component, said beam structure is disposed approximately said effective distance from said electronic component.

Claim 130 (Previously presented): The electronic interconnect element of claim 129, wherein said beam structure comprises a pair of leaf portions joined one to another at ends of said leaf portions.

Claim 131 (Previously presented): The electronic interconnect element of claim 130, wherein said pair of leaf portions are joined one to another at said ends of said leaf portions by support structures.

Claim 132 (Previously presented): The electronic interconnect element of claim 129 further comprising a beam to which said beam structure is joined by a support structure.

Claim 133 (Previously presented): The electronic interconnect element of claim 132 further comprising a plurality of beams, wherein said beam structure is joined to at least one of said beams by at least one support structure.

Claim 134 (Previously presented): The electronic interconnect element of claim 129 further comprising another beam structure comprising another continuous closed perimeter enclosing another hollow space disposed within said perimeter portion, wherein said beam structure and said another beam structure are joined one to another by a support structure.

Claim 135 (Withdrawn): The electronic interconnect element of claim 129, wherein said beam structure is joined to said attachment structure.

Claim 136 (Previously presented): The electronic interconnect element of claim 102, wherein an axis substantially perpendicular to the first side of the first leaf portion and passing through the contact tip is offset along a length of the first side of the first leaf portion from an axis substantially perpendicular to the first side of the first leaf portion and passing through the at least one first support.

Claim 137 (Previously presented): The electronic interconnect element of claim 107, wherein an axis substantially perpendicular to the first side of the one of the plurality of leaf portions and passing through the contact tip is offset along a length of the one of the plurality of leaf portions from an axis substantially perpendicular to the first side of the other of the plurality of leaf portions and passing through the at least one first support.

Claim 138 (New): The electronic interconnect element of claim 102 wherein the first leaf portion comprises a structural material deposited on a conductive seed material.